

11-20-06

Attorney's Docket No.: 08625-006US1/2506US



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Ching et al.  
Serial No. : 10/582,048  
Filed : June 7, 2006  
Cust No. : 20985  
Title : CATIONIC OLIGOMER OF A SACCHARIDE FOR RESOLVING ENANTIOMERS  
AND ASYMMETRIC SYNTHESIS

Art Unit : Unknown  
Examiner : Unknown

**Mail Stop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**TRANSMITTAL LETTER**

Dear Sir:

Transmitted herewith are an Information Disclosure Statement (2 pages), Form PTO-1449 (2 pages), non-U.S. patent cited references, and a return postcard for filing in connection with the above-identified application. Because this Information Disclosure Statement is filed prior to receipt of a first office action on the merits in the above-referenced application, no fee is due. However, should it be determined that a fee for filing these papers is required, the Commissioner is authorized to charge Deposit Account No. 06-1050, as stated below:

The Commissioner is hereby authorized to charge any fees that may be due in connection with this paper or with this application during its entire pendency to Deposit Account No. 06-1050. A duplicate of this sheet is enclosed.

Respectfully submitted,

Stephanie Seidman  
Reg. No. 33,779

Attorney Docket No. 08625-006US1 / 2506US

**Address all correspondence to:**

Stephanie Seidman  
Fish & Richardson P.C.  
12390 El Camino Real  
San Diego, California 92130  
Telephone: (858) 678-4777  
Facsimile: (202) 626-7796  
email: seidman@fr.com

10672166.doc

**CERTIFICATE OF MAILING BY "EXPRESS MAIL"**

"Express Mail" Mailing Label Number **EV 740126167 US**  
Date of Deposit **November 16, 2006**

I hereby certify that this paper is being deposited with the United States Postal "Express Mail Post Office to Addressee" Service under 37 CFR §1.10 on the date indicated above and is addressed to: Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA, 22313-1450.

Stephanie Seidman



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Ching et al. Art Unit : Unknown  
Serial No. : 10/582,048 Examiner : Unknown  
Filed : June 7, 2006  
Cust No. : 20985  
Title : CATIONIC OLIGOMER OF A SACCHARIDE FOR RESOLVING  
ENANTIOMERS AND ASYMMETRIC SYNTHESIS

**Mailstop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT IN ACCORDANCE**  
**WITH 37 C.F.R. §§ 1.97-1.98**

Because this Information Disclosure Statement is filed before the receipt of a First Office Action on the Merits for the above-captioned application, a fee for filing this statement should not be due. If, however, it is determined that a fee is due, any fees that may be due in connection with filing this paper may be charged to Deposit Account No. 06-1050.

In accordance with the duty of disclosure imposed by 37 C.F.R. §1.56 to inform the Patent Office of all information known by Applicant or Applicant's representative that may be material to the examination of the subject application, Applicant's representative hereby provides this Information Disclosure Statement that is prepared in accordance with 37 C.F.R. §§1.97-1.98. Form PTO-1449 (2 pages) and copies of the cited non U.S. Patent documents are provided herewith.

The documents cited on the Forms PTO-1449 are in the English language. Hence, in accordance with the requirements of 37 C.F.R. §1.98, as amended effective March 16, 1992, no further explanation of the listed items is necessary.

**CERTIFICATE OF MAILING BY "EXPRESS MAIL"**

"Express Mail" Mailing Label Number EV 740126167 US  
Date of Deposit 16 November, 2006

I hereby certify that this paper is being deposited with the United States Postal "Express Mail Post Office to Addressee" Service under 37 CFR §1.10 on the date indicated above and is addressed to: Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA, 22313-1450.

Stephanie Seidman

Applicant : Ching et al.  
Serial No. : 10/582,048  
Filed : June 7, 2006  
Page : 2 of 2

Attorney's Docket No.: 08625-006US1/2506  
Information Disclosure Statement

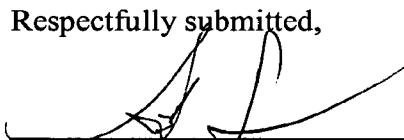
Applicant also makes known to the Examiner the following pending U.S., International and National Phase Applications that have one or more common inventors and/or are commonly owned:

| <u>U.S.S.N.(App. No.)</u> | <u>Filing Date</u> | <u>Docket No.</u> |
|---------------------------|--------------------|-------------------|
| 10/773020                 | 02/04/04           | 4810-67824        |

Although these documents are made known to the Patent and Trademark Office in compliance with Applicant's duty of disclosure, such disclosure is not to be construed as an admission by Applicant or Applicant's representative that any of the information, singly or in any combination thereof, is effective as prior art against the subject application. In accordance with 37 C.F.R. §1.97(g) and (h), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(b) exists.

Applicant respectfully requests that the Examiner review the foregoing documents and they be made of record in the file history of the above-captioned application.

Respectfully submitted,



Stephanie Seidman  
Reg. No. 33,779

Attorney Docket No. 08625-006US1 / 2506US

**Address all correspondence to:**

Stephanie Seidman  
Fish & Richardson P.C.  
12390 El Camino Real  
San Diego, California 92130  
Telephone: (858) 678-4777  
Facsimile: (202) 626-7796  
email: seidman@fr.com

|   |                                |  |  |  |                               |  |
|---|--------------------------------|--|--|--|-------------------------------|--|
| Substitute Form PTO-1449<br>(Modified)  |                                | U.S. Department of Commerce<br>Patent and Trademark Office |  | Attorney's Docket No.<br>08625-006US1/2506US | Application No.<br>10/582,048 |  |
| <b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br><br>(37 CFR 1.98(b)) |                                |  |  | Applicant<br>Ching et al.                    |                               |  |
| NOV 16 2006   | U.S. PATENT & TRADEMARK OFFICE | Filing Date<br>June 7, 2006                                |  |  | Group Art Unit                |  |

| U.S. Patent Documents |           |                 |                  |           |       |          |                            |
|-----------------------|-----------|-----------------|------------------|-----------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Document Number | Publication Date | Patentee  | Class | Subclass | Filing Date If Appropriate |
| /J.L./                | AA        | 2004/0154981    | 08/12/04         | Ng et al. | 502   | 404      | 02/04/04                   |
| /J.L./                | AB        | 6,017,458       | 01/25/00         | Ng et al. | 210   | 635      | 08/26/98                   |
| /J.L./                | AC        | 6,296,798       | 10/02/01         | Ng et al. | 210   | 635      | 11/18/99                   |
| /J.L./                | AD        | 6,720,285       | 04/13/04         | Ng et al. | 502   | 404      | 06/22/01                   |

| Foreign Patent Documents or Published Foreign Patent Applications |           |                 |                  |                          |       |          |             |
|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|
| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |
|   |           |                 |                  |                          |       |          | Yes No      |
|   |           | NONE            |                  |                          |       |          |             |

| Other Documents (include Author, Title, Date, and Place of Publication) |           |   |
|---|-----------|---|
| Examiner Initial  | Desig. ID | Document  |
| /J.L./  | AE        | Brady et al., "6 <sup>A</sup> -O-p-toluenesulfonyl-β-cyclodextrin (β-cyclodextrin, 6 <sup>A</sup> -(4-methylbenzenesulfonate))," <i>Organic Synthesis</i> 77:220-224 (2004)   |
| /J.L./  | AF        | Bressolle et al., "Cyclodextrins and enantiomeric separations of drugs by liquid chromatography and capillary electrophoresis: basic principles and new developments," <i>J Chromatogr B Biomed Appl.</i> 687(2):303-336 (1996)   |
| /J.L./  | AG        | Chankvetadze et al., "Reversal of enantiomer elution order in capillary electrophoresis using charged and neutral cyclodextrins," <i>J. Chromatogr. A</i> 732(1):183-187 (1996)   |
| /J.L./  | AH        | Chen et al., "Synthesis and chromatographic properties of a novel chiral stationary phase derived from heptakis(6-azido-6-deoxy-2,3-di-O-phenylcarbamoylated)-β-cyclodextrin immobilized onto amino-functionalized silica gel via multiple urea linkages," <i>J. Chromatogr. A</i> 950(1): 65-74 (2002) |
| /J.L./  | AI        | Ching et al., "Effect of mobile phase composition on the separation of propranolol enantiomers using a perphenylcarbamate β-cyclodextrin bonded chiral stationary phase," <i>J of Chromatogr A</i> , 898 (1): 53-61 (2000)  |
| /J.L./  | AJ        | Fanali, S. and Z. Aturki, "Use of cyclodextrins in capillary electrophoresis for the chiral resolution of some 2-arylpropionic acid non-steroidal anti-inflammatory drugs," <i>J Chromatogr A</i> . 694(1):297-305 (1995)   |
| /J.L./  | AK        | Khan et al., "Methods for Selective Modifications of Cyclodextrins," <i>Chem Rev.</i> 98(5):1977-1996 (1998)  |
| /J.L./  | AL        | Matsui, Y. and A. Okimoto, "The Binding and Catalytic Properties of a Positively Charged Cyclodextrin," <i>Bull. Chem. Soc. Jpn</i> 51(10):3030-3034 (1978)   |
| /J.L./  | AM        | Murakami et al., "Regioselective sulfonation of a secondary hydroxyl group of cyclodextrins," <i>Tetrahedron Lett</i> 28(3):321-324 (1987)  |
| /J.L./  | AN        | Nardi et al., "Use of charged and neutral cyclodextrins in capillary zone electrophoresis: enantiomeric resolution of some 2-hydroxy acids," <i>J Chromatogr A</i> 638(2):247-253 (1993)  |
| /J.L./  | AO        | Ng et al., "Enantiomer separation of flavour and fragrance compounds by liquid chromatography using novel urea-covalent bonded methylated β-cyclodextrins on silica," <i>J Chromatogr A</i> . 968(1-2):31-40 (2002)   |
| /J.L./  | AP        | Ng et al., "Facile Preparative HPLC Enantioseparation of racemic drugs using chiral stationary phases based on mono-6 <sup>A</sup> -azido-6 <sup>A</sup> -deoxy-perphenylcarbamoylated β-Cyclodextrin immobilized on silica gel," <i>Tetrahedron Lett</i> 43(4): 677-681 (2000)                         |

|  |                               |
|--|-------------------------------|
| Examiner Signature<br>/Jonathan Lau/   | Date Considered<br>08/20/2008 |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                               |

|   |  |  |                               |
|---|--|--|-------------------------------|
| Substitute Form PTO-1449<br>(Modified)  | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>08625-006US1/2506US | Application No.<br>10/582,048 |
| <b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br>(37 CFR § 1.98(b)) |  | Applicant<br>Ching et al.                    |                               |
|   |  | Filing Date<br>June 7, 2006                  | Group Art Unit                |

**Other Documents (include Author, Title, Date, and Place of Publication)**

| Examiner Initial | Desig. ID | Document  |
|------------------|-----------|---|
| /J.L./           | AQ        | Owens et al., "Effect of charged and uncharged chiral additives on the resolution of amlodipine enantiomers in liquid chromatography and capillary electrophoresis," <i>J Chromatogr A</i> 797(1-2):187-195 (1998)  |
|                  | AR        | Owens et al., "Screening of cyclodextrins by nuclear magnetic resonance for the design of chiral capillary electrophoresis separations," <i>J Chromatogr A</i> 797(1-2):149-164 (1998)  |
|                  | AS        | Petter et al., "Cooperative binding by aggregated mono-6-(alkylamino)- $\beta$ -cyclodextrins," <i>J Am Chem Soc</i> 112(10):3860-3868 (1990)   |
|                  | AT        | Phinney, K.W. and L.C. Sander, "Preliminary evaluation of a standard reference material for chiral stationary phases used in liquid and supercritical fluid chromatography," <i>Anal Bioanal Chem.</i> 372(1):101-108 (2002)  |
|                  | AU        | Schneiderman, E. and A.M. Stalcup, "Cyclodextrins: a versatile tool in separation science," <i>J Chromatogr B Biomed Sci Appl.</i> 745(1):83-102 (2000)   |
|                  | AV        | Szemán et al., "Effect of the degree of substitution of cyclodextrin derivatives on chiral separations by high-performance liquid chromatography and capillary electrophoresis," <i>J Chromatogr A</i> 728(1-2):423-31 (1996)   |
|                  | AW        | Tanaka, Y. and S. Terabe, "Enantiomer separation of acidic racemates by capillary electrophoresis using cationic and amphoretic $\beta$ -cyclodextrins as chiral selectors," <i>J Chromatogr A</i> 781(1-2):151-160 (1997)  |
|                  | AX        | Tanaka, Y., "Method Development of Enantiomer Separations by Affinity Capillary Electrophoresis, Cyclodextrin Electrokinetic Chromatography and Capillary Electrophoresis-Mass Spectrometry," <i>Chromatography</i> , 23(1):13-23 (2002)  |
|                  | AY        | Terabe et al., "Electrokinetic chromatography with 2-O-carboxymethyl- $\beta$ -cyclodextrin as a moving 'stationary' phase," <i>J Chromatogr A</i> 332:211-217 (1985)   |
|                  | AZ        | Terabe et al., "Separation of enantiomers by capillary electrophoretic techniques," <i>J Chromatogr A</i> 606(1-2):295-319 (1994)   |
|                  | BA        | Terabe et al., "Electrokinetic chromatography: An interface between electrophoresis and chromatography," <i>Trends Anal Chem</i> 8(4):129-134 (1989)  |
|                  | BB        | Velmurugan et al., "Optimization of the reversed-phase high-performance liquid chromatographic separation of the enantiomers of a cationic chiral drug (tolperisone) on a heptakis(6-azido-6-deoxy) perphenylcarbamated $\beta$ -cyclodextrin column," <i>Chromatographia</i> 56 (3-4): 229-232 (2002)              |
|                  | BC        | Wang, X. and C.B. Ching, "Kinetic and equilibrium study of the separation of three chiral center drug, nadolol, by HPLC on a novel perphenyl carbamoylated $\beta$ -cyclodextrin bonded chiral stationary phase," <i>Sep Sci Tech</i> 37 (11): 2567-2586 (2002)   |
|                  | BD        | Wang, X. and C.B. Ching, "Liquid chromatographic retention behavior and enantiomeric separation of three chiral center $\beta$ -blocker drug (Nadolol) using heptakis (6-azido-6-deoxy-2, 3-di-O phenylcarbamolyted) $\beta$ -cyclodextrin bonded chiral stationary phase," <i>Chirality</i> 14(10): 798-805 (2002) |
|                  | BE        | Wren, S.A.C. and R.C. Rowe, "Theoretical aspects of chiral separation in capillary electrophoresis : I. Initial evaluation of a model," <i>J Chromatogr A</i> 603(1-2):235-241 (1992)   |
| ↓                | BF        | Yu, H.W. and C.B. Ching, "Kinetic and equilibrium study of the enantioseparation of fluoxetine on a new $\beta$ -cyclodextrin column by high performance liquid chromatography," <i>Chromatographia</i> 54 (11-12):697-702 (2001)   |
| /J.L./           | BG        | Yu, et al., "Enantioseparation of fluoxetine on a new $\beta$ -cyclodextrin bonded phase column by HPLC," <i>Sep Sci Tech</i> 37 (6): 1401-1415 (2002)  |

|  |                |                 |
|--|----------------|-----------------|
| Examiner Signature   | /Jonathan Lau/ | Date Considered |
| 08/20/2008   |                |                 |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                |                 |